

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Revised PCT/PTO

15 OCT 2004
PCT/EP2003/003882



Applicant's or agent's file reference 03SGL0136WOP	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/003882	International filing date (day/month/year) 15 April 2003 (15.04.2003)	Priority date (day/month/year) 15 April 2002 (15.04.2002)
International Patent Classification (IPC) or national classification and IPC C23C 14/10		
Applicant SCHOTT AG		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet. <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of <u>7</u> sheets.
3. This report contains indications relating to the following items: I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 29 August 2003 (29.08.2003)	Date of completion of this report 26 August 2004 (26.08.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/003882

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages _____ 1-14 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____ 1-32 _____, filed with the letter of _____ 29 June 2004 (29.06.2004)
- ☒ the drawings:
pages _____ 1/5-5/5 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	1-32	YES
	Claims		NO
Inventive step (IS)	Claims	1-32	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-32	YES
	Claims		NO

2. Citations and explanations

This report makes reference to the following documents:

- D1: WOO-BEOM CHOI ET AL: "Anodic bonding technique under low temperature and low voltage using evaporated glass", Journal of Vacuum Science & Technology B (Microelectronics and Nanometer Structures), Vol. 15, No. 2, pages 477-481, March-April 1997
- D2: CH 387 175 A (WESTERN ELECTRIC CO) 31 January 1965 (1965-01-31)
- D3: US-A-4 374 391 (CAMLIBEL IRFAN ET AL) 15 February 1983 (1983-02-15)

Document D1 is considered to constitute the prior art closest to the subject matter of claim 1 and discloses (the references in parentheses are to that document): a method for forming the housing of electronic components (abstract; page 481, last sentence) in which an evaporated glass source is used to apply a glass layer on one side of the substrate by vaporisation (page 477, Chapter II). The subject matter of claim 1 therefore differs from the known method in that the opposite side of the substrate is then processed so as to generate line contacts. Similarly, the method as per claim 1 differs from the methods in documents D2 (see claims I; II, 1.1; page 7, line 67 to

page 8, line 46) and D3 (see column 4, lines 44-51). The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

The present invention can therefore be considered to address the problem of producing connection structures to electronic components already protected by a layer of evaporated glass. The solution to this problem, as proposed in claim 1 of the present application, involves an inventive step (PCT Article 33(3)) because this method cannot be derived from the prior art.

Claims 2-22 are dependent on claim 1 and therefore likewise meet the PCT novelty and inventive step requirements.

Although documents D1, D2 and D3 describe electronic components entirely or partially coated with an evaporated glass layer, the subject matter of claim 23 is not known from or suggested by these citations. According to claim 23, the connection structures on the component are located, owing to its production process, on the side of the substrate away from the glass layer. Claim 23 therefore meets the PCT novelty and inventive step requirements.

Claims 24-32 are dependent on claim 23 and therefore likewise meet the PCT novelty and inventive step requirements.

Since the invention is used in the electronic industry, it is industrially applicable.